

ABSTRACT OF THE DISCLOSURE

An electron emitter has an emitter made of a dielectric material, and an upper electrode and a lower electrode to which a drive voltage is applied to emit electrons. The upper electrode is formed on a first surface of the substance serving as the emitter, and the lower electrode is formed on a second surface of the substance serving as the emitter. The upper electrode has a plurality of through regions through which the emitter is exposed. The upper electrode has a surface which faces the emitter in peripheral portions of the through regions and which is spaced from the emitter.